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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,233	10/30/2001	Jeff Harris	GEHA 7843US	8835
1688	7590	10/06/2004	EXAMINER	
POLSTER, LIEDER, WOODRUFF & LUCCHESI 12412 POWERSCOURT DRIVE SUITE 200 ST. LOUIS, MO 63131-3615			DAO, MINH D	
			ART UNIT	PAPER NUMBER
			2682	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/021,233	HARRIS ET AL.	
	Examiner	Art Unit	
	MINH D DAO	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02252002</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-10,12-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Dukach et al. (US 2002/0009978).

Regarding claim 1, Dukach teaches a locomotive radio communication system (see figs. 3-6; section [0156]), comprising: a standard mounting plate (see triangularly shaped car-top box of figs. 3-6; also see fig. 68, section [0479] and [0480], roof protector 1408 has a bottom surface 1409); a modular radio communications unit (see fig. 1, wireless system 152), and; a communications hub (see fig. 1, central system 102).

Regarding claim 2, Dukach teaches the locomotive radio communication system of claim 1 wherein the modular radio communications unit includes a housing (see fig. 67, rooftop box 1401; se section [0480]).

Regarding claim 3, Dukach teaches the locomotive radio communication system of claim 2 wherein the housing has at least two radio electronic compartments (see fig. 43, areas that accommodate units 1028s and 1030 read on electronic compartment of the invention) and at least one antenna (see fig. 45, antenna 1033; section [0394]).

Regarding claim 4, Dukach teaches the locomotive radio communication system of claim 3 further comprising at least one radio electronics unit (see fig. 1, wireless system 152).

Regarding claim 5, Dukach teaches the locomotive radio communication system of claim 4 wherein the at least one radio contains at least one baseband interface module integrated into the radio, the baseband interface module being capable of translating a radio baseband protocol to a standard communications hub protocol. In this case, it is inherently known in the art that in order for the wireless system 152 to communicate with central unit 102, its baseband interface has to compatibly have the same protocol as that of the protocol of the central unit 102. Therefore, Dukach reads on this limitation of the present invention.

Regarding claim 6, Dukach teaches the locomotive radio communication system of claim 5 wherein the at least one radio electronics unit is mounted within the housing (see fig. 1, wireless system 152 is within mobile unit 104).

Regarding claim 7, Dukach teaches the locomotive radio communication system of claim 6 wherein the modular radio communications unit is connected to the communications hub by a serial cable (see fig. 1, the connections between mobile units 104 and central system 102).

Regarding claims 8, 12 and 24, the examiner takes official notice that each baseband interface module contains a factory programmed unique radio identification code. In this case, the factory programmed unique radio identification code, as described in the specification of the invention, is the serial and the model number of the device.

Regarding claim 13, it is inherently known in the art that the commissioning of a radio upgrade can be done remotely from a host center using the unique identification code of the radio for the benefit of not having to send people to the specific cell site.

Regarding claim 14, Dukach teaches the locomotive radio communication system of claim 2 wherein the housing has a first sunscreen and a second sunscreen to shield the modular communications unit from the sun (see fig. 69, top covers 1404).

Regarding claim 15, Dukach teaches the locomotive radio communication system of claim 14 further comprising a plurality of vent openings to allow air to circulate within the housing (see fig. 70, outflow ventilation holes 1424).

Regarding claim 16, Dukach teaches the locomotive radio communication system of claim 14 wherein the housing has an insulating air gap to trap air beneath the housing (see fig. 70, inflow ventilation holes 1422).

Regarding claims 9 and 17, Dukach teaches the locomotive radio communication system of claim 16 wherein the modular radio communications unit contains at least one radio capable of both voice and data communications (see section [0153]).

Regarding claims 10 and 18, Dukach teaches the locomotive radio communication system of claim 17 further comprising an RF coaxial cable connecting the at least one radio to the at least one antenna such that the RF coaxial cable is positioned outside the cab of the locomotive (see fig. 45 and section [0394]). In this case, it is inherently known in the art that the connections between antenna 1035 to the modem and the communication port can be made using coaxial cable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dukach et al. (US 2002/0009978) in view of Ristau et al. (US 6,374,307).

Regarding claim 19, Dukach teaches a locomotive radio communication system (see figs. 3-6; section [0156]) comprising: a modular radio communications unit (see fig. 1, wireless system 152) having standard mounting plate (see triangularly shaped car-top box of figs. 3-6; also see fig. 68, section [0479] and [0480], roof protector 1408 has a bottom surface 1409) being capable of attachment to a roof of a locomotive, the modular radio communications unit having a housing (see fig. 67, rooftop box 1401; see section [0480]) with a first sunscreen, a second sunscreen (see fig. 69, top covers 1404), at least one air insulation gap (see fig. 70, inflow ventilation holes 1422), at least two radio electronics compartments (see fig. 43, areas that accommodate units 1028s and 1030 read on electronic compartment of the invention), a first plurality of vent openings (see fig. 70, outflow ventilation holes 1424), and a second plurality of vent

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openings (see fig. 70, inflow ventilation holes 1422), the first and second plurality of vent openings configured to create an air ventilation gap (see section [0486]); at least one radio electronics unit mounted within the housing (see fig. 1, wireless system 152 is within mobile unit 104), at least one antenna mounted to the housing, the antenna being covered by an antenna dome (see fig. 45, antenna 1033; section [0394]); an RF coaxial cable connecting the at least one radio electronics unit to the at least one antenna (see fig. 45 and section [0394]). In this case, it is inherently known in the art that the connections between antenna 1035 to the modem and the communication port can be made using coaxial cable. However, Dukach fails to teach a communications hub connected to the modular radio communications unit by a multichannel highband width baseband serial cable. Ristau, in an analogous art, teaches hubs connected by multichannel highband width baseband serial cable (col. 4, lines 42-45; col. 7, lines 10-11). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Ristau to Dukach in order to handle the increasing required bandwidth regarding data transferring between communications networks.

3. Claims 20, 21, 22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dukach et al. (US 2002/0009978) in view of Ristau et al. (US 6,374,307) and further in view of Ezurico (US 6,591,096).

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Regarding claim 20, the claim is the method claim of claim 19 and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 19. However, the combination of the teachings of Dukach and Ristau fails to teach that the communications hub is inside the cab of the locomotive. Ezurico, in an analogous art, teaches a communications hub is inside the cab of the locomotive (see figs. 1 and 6, col. 30, lines 45-54, in this case, the antenna 3 that receives and forwards signals between the repeater 2 and mobile phone 4 reads on the hub of the invention). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Ezurico to Dukach and Ristau so that mobile phone users, in a train, can continue their conversations without being dropped due to weak coverage inside the train.

Regarding claim 21, the claim has the same limitations as that of claim 5 and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 5.

Regarding claims 22 and 25, the claims has the same limitations as that of claims 14, 15, 16 and therefore is interpreted and rejected for the same reason set forth in the rejections of claims 14, 15 and 16.

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4. Claims 11 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dukach et al. (US 2002/0009978) in view of Kojima (US 6,272,344).

Regarding claim 11, Dukach teaches the limitations of claim 7 as mentioned above. However, Dukach fails to teach that the communications hub contains a unique registration code identifying a specific locomotive. Kojima, in an analogous art, teaches a communications hub contains a unique registration code identifying a specific locomotive (see figs. 2 and 4, col. 7, lines 15-28). In this case, since the apparatus 23 is a base station therefore it must have a unique identification registered with wireless network where it belongs for the benefit of billing, handing-off procedures.

Regarding claim 23, the claim has the same limitations as that of claim 11 and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 11.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Rose et al. (US 6,041,216) discloses Radio Communication System For Use In Tunnels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH D DAO whose telephone number is 703-305-5589. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN C CHIN can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Minh Dao
Art Unit 2682
September 25, 2004 *md*


LESTER G. KINCAID
PRIMARY EXAMINER